User's Manual

THERMAL RECEIPT PRINTER

Model: P06-U/S/L

V2.0 2010.05

Contents

1. General Information

1.1) Main Features 3

1.2) P06-U/S/L Series Function List 4

2. Quick Start

2.1) Unpacking & Parts Identification 5

2.2) Loading the Paper Roll 6

3. Printer Interface and Connection

3.1) Connecting the Interface Cable.....8

3.2) Connecting to a Cash Drawer 8

3.3) Connecting the AC Adapter 9

4. Configuration

4.1) Panel LED Indicators 10

4.2) DIP Switch Settings 10

4.3) Printer Self Test 11

4.4) Driver Installation 11

5. Safety and Maintenance

5.1) Safety Information 15

5.2) Periodical Cleaning 15

5.3) Preventing Paper Jams 15

5.4) Fixing Paper Jam 16

6. Appendix

- Products Specifications 17

- Configuration 19

1. General Information

1.1) Main Features

1. High speed printing:

- 230mm/s maximum print speed.
- Low-noise thermal printing.
- High reliability due to a stable mechanism.

2.Application Software:

- Command protocol is based on ESC/POS standard.
- Various Layouts are possible by using page mode.
- Characters can be scaled up to 64 times as large as the standard size.
- Smoothing is also possible.
- Repeated operation and copy printing are possible by using macro definitions.
- Character font size (12x24 font or 9x17 font) can be selected using a command.

3. Printer Handling:

- Easy paper-roll installation.
- Equipped with an auto cutter.
- The printer allows easy maintenance for tasks such as head cleaning.
- Two different print densities can be selected by DIP switches.
- The built-in interface provides control capability for one cash drawer.

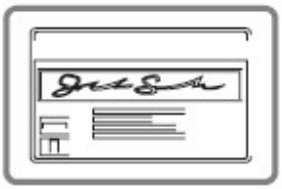
1.2) Function List

1. Maximum printing speed 230mm/sec
2. Fully-compatible with EPSON ESC/POS command (see command sets for programming reference)
3. Characters can be scaled up to 8 times larger than standard size(*)
4. Support print data in page mode
6. Support Font A (12*24) and Font B (9*17) characters(*)
7. Support NV Image download
8. Three indicator LEDs (POWER,ERROR, and Paper roll out) and One panel button (FEED)
9. Support warning beep sound
10. Support DIP switch to select Chinese/ASCII mode
11. Support printer server printing
12. Support 9600,19200,38400,115200bps baud rate
13. Support print with 90 rotation(*)

Note: (*) items are functions that will affect printing speed

Barcode

High-speed Printing


Printer identification

Mutiple Connection printing

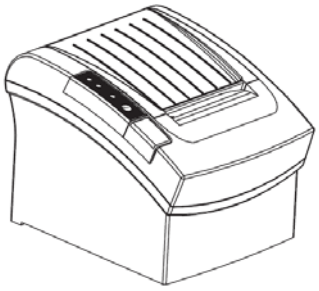
OPOS Driver Various

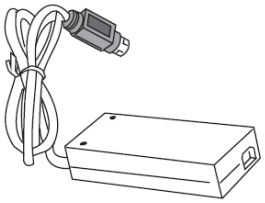
Character Sets

2. Quick Start

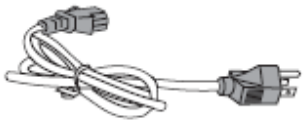
2.1) Unpacking & Parts Identification

a. Unpacking:

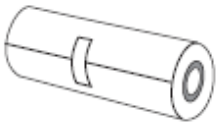




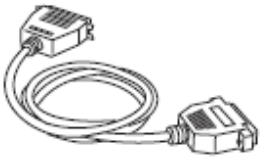
Power Adapter



Power Cord

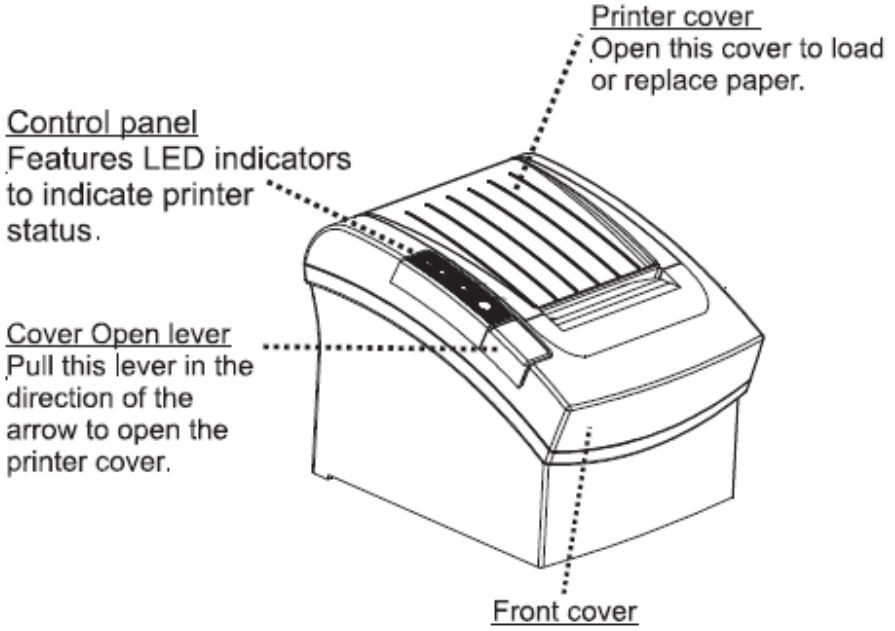


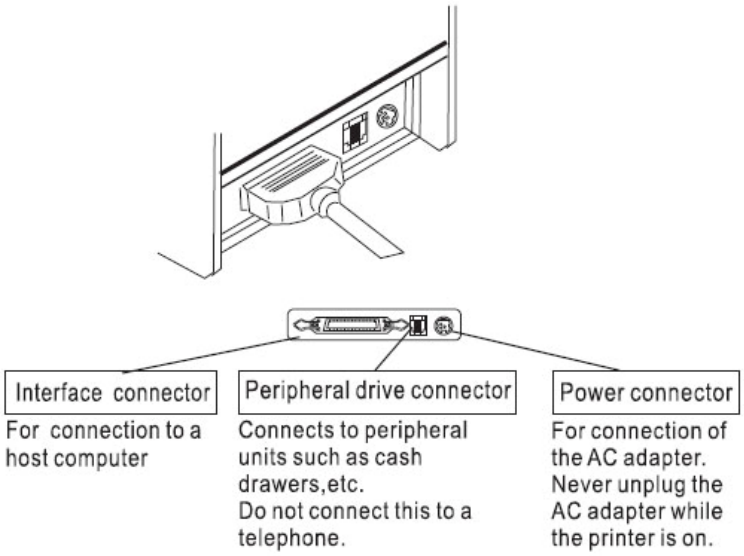
Paper Roll



Interface Cable

b. Parts Identification:


Printer cover
Open this cover to load or replace paper.
Control panel
Features LED indicators to indicate printer status.
Cover Open lever
Pull this lever in the direction of the arrow to open the printer cover.
Front cover

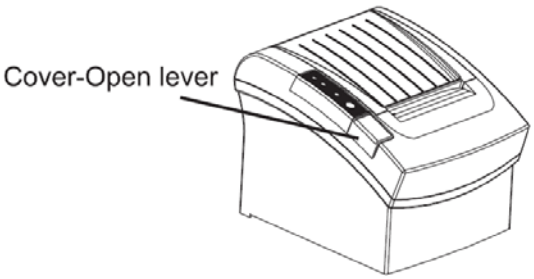

Interface connector
For connection to a host computer
Peripheral drive connector
Connects to peripheral units such as cash drawers,etc.
Do not connect this to a telephone.
Power connector
For connection of the AC adapter.
Never unplug the AC adapter while the printer is on.

2.2) Loading the Paper Roll

a. Make sure that the paper roll matches the printer specification. Do not use paper rolls that have the paper glued to the core because the printer cannot detect the paper end correctly.

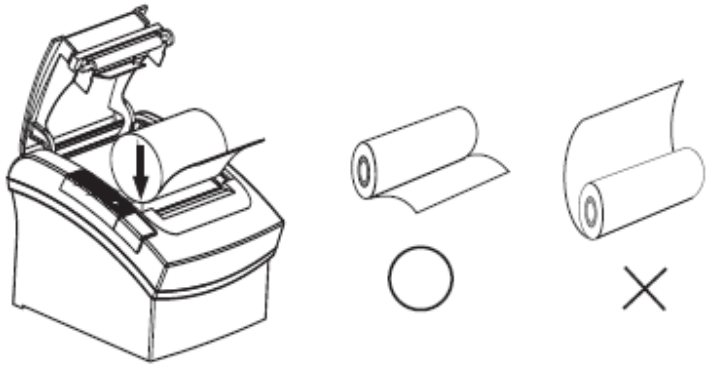
Important: *The printing quality and lifespan of the thermal head cannot be guaranteed if any paper other than that recommended is used. Thus, the warranty will be void automatically if any fault occurs due to the use of wrong paper rolls.*

b. Open the paper roll cover pressing the cover-open button

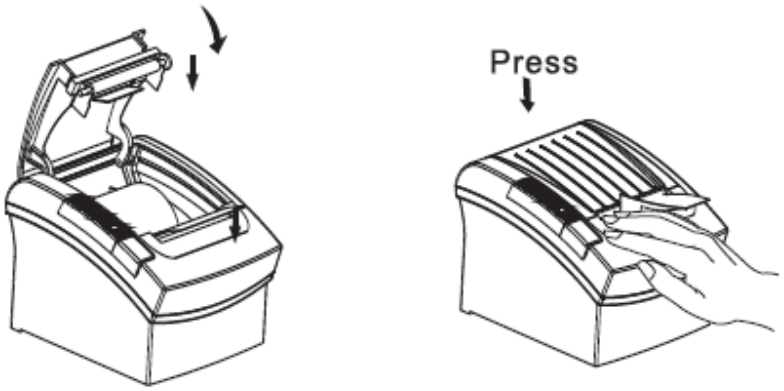


Important: *Donot pull the cover open lever and open the printer cover during printing is in process.*

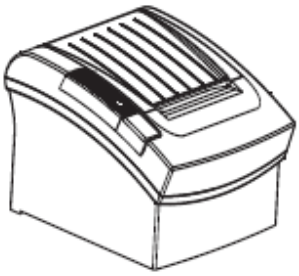
c. While oberserving the direction of the roll, set the paper roll into the hollow, and pull on the leading edge of the paper toward you as shown:



d. Close the cover. When closing the cover, press the center of the printer cover firmly to prevent paper miss-loading



e. Tear off the paper outside the cover as shown



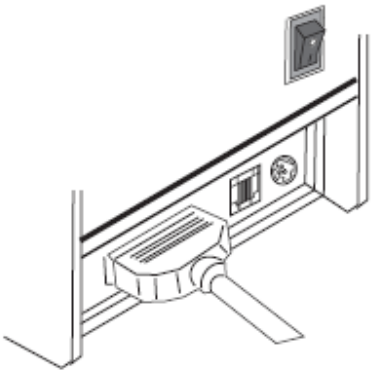
3. Printer Interface and Connection

3.1) Connecting the Interface Cable

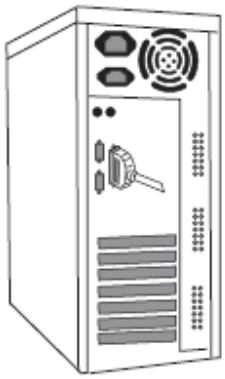
a. Before connecting/disconnecting the interface cable, make sure that power to the printer and all the devices connected to the printer is turned on

b. Connect the interface cable to the connector on the rear panel of the printer

c. In the case of a serial interface, tighten the connector screws. In the case of a parallel interface, fasten the connector clasps

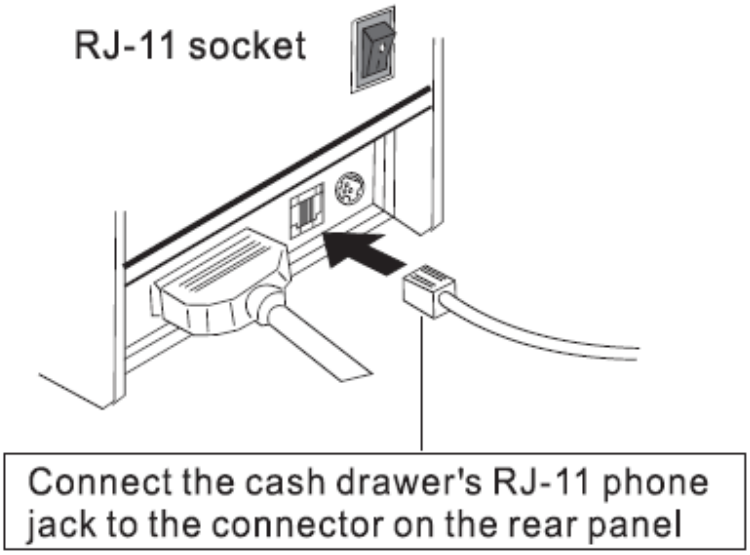


Plug the cable connector securely into the printer's interface connector



Attach the other end of the cable to the computer

3.2) Connecting to a Cash Drawer

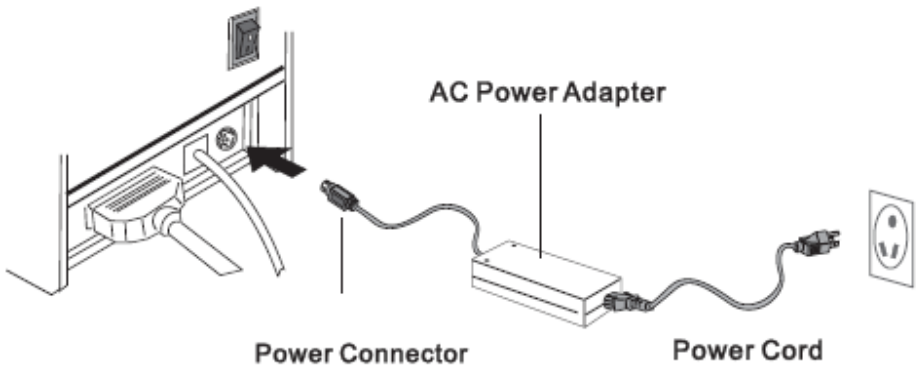


Important: *ake sure that the printer is turned off and unplugged from the AC outlet and hat the computer is turned off before making connections. o not connect a telephone line into the peripheral drive connectors. Failure to bserve this may result in damage to the printer.*

3.3) Connecting the AC Adapter

a. Connect the AC power cord to the inlet of AC adapter, and then connect the power cord plug to a suitable electrical outlet

b. Connect the adapter cable to power connector of printer, make sure the printer power switch is OFF before making any connections



c. Set the power switch as shown. The POWER lamp on the control panle will light up.

4. Configuration

Printer Control Panel & Status Indicator

4.1) Panel LED Indicators

1. Power (POWER) LED: Green

On: Power is stable

Off: Power is not stable

2. Error(ERROR) LED: Red

On: Off line (except during paper feeding using the FEED button and test printing, and the error state.)

Off: Normal condition

3. Paper roll end (PAPER OUT) LED: Red

On: The paper roll near end is detected.

Off: Paper is loaded (Normal condition).

4.2) DIP Switch Settings

The DIP switch panel is locating at bottom of the printer as shown:

DIP Switch Functions:

Switch	Function	ON	OFF	Default
SW-1	Select cutter	No	Yes	OFF
SW-2	Select beeper	Yes	No	OFF
SW-3	Print density	Dark	Light	OFF
SW-4	Two-bite character code	No	Yes	OFF
SW-5	Character per line	42	48	OFF
SW-6	Reserve			OFF
SW-7	Selecr baud rate			OFF
SW-8	Select baud rate			OFF

SW-7	SW-8	Baudrate(bps)
ON	ON	38400
OFF	ON	115200
ON	OFF	9600
OFF	OFF	19200

Note: *Before configure the DIP switch settings, please first turn the printer power off and remove the paper roll. (*) Baud Rate is only available for serial interface models.*

4.3) Printer Self Test

This is to test whether the printer is working properly or not and also checks the printing quality, firmware version, and DIP switch settings.

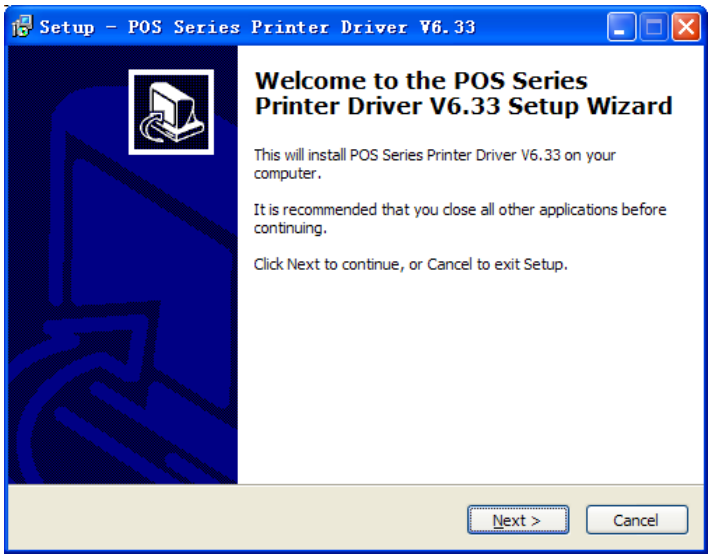
1. Hold the FEED button first and then turn on the power at the same time, release the button after around 1 second.
2. If the printer is working properly, it should then automatically print the self-testing result that indicating the firmware version number, printer connection type, English alphanumeric characters, and so on.
3. The test print will be ended with following message:

*** COMPLETED ***

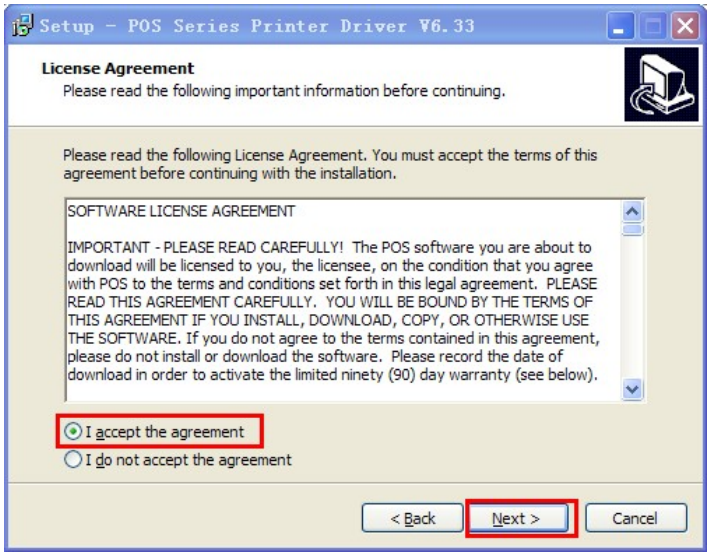
Note: *Above procedure does not test parallel or serial ports. Please use communication utility to test the printer connection.*

4.4) Driver Installation

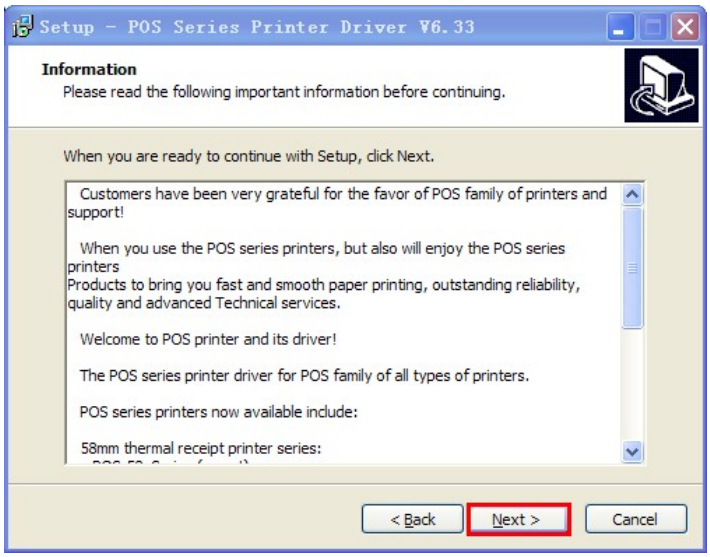
1) For Windows 2000/XP/7 32bit OS


Setup - POS Series Printer Driver V6.33
Welcome to the POS Series Printer Driver V6.33 Setup Wizard
This will install POS Series Printer Driver V6.33 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

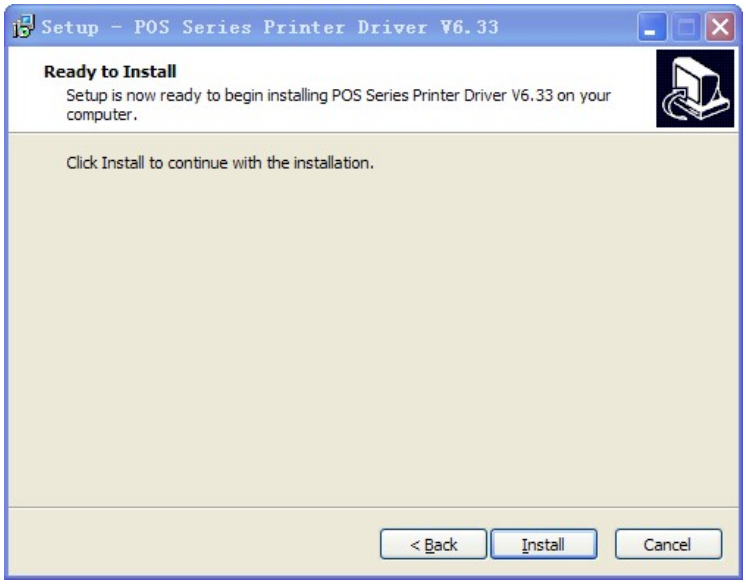
Double-click the program, and the path is '**Driver / POSDRVEN V6.33.exe**'

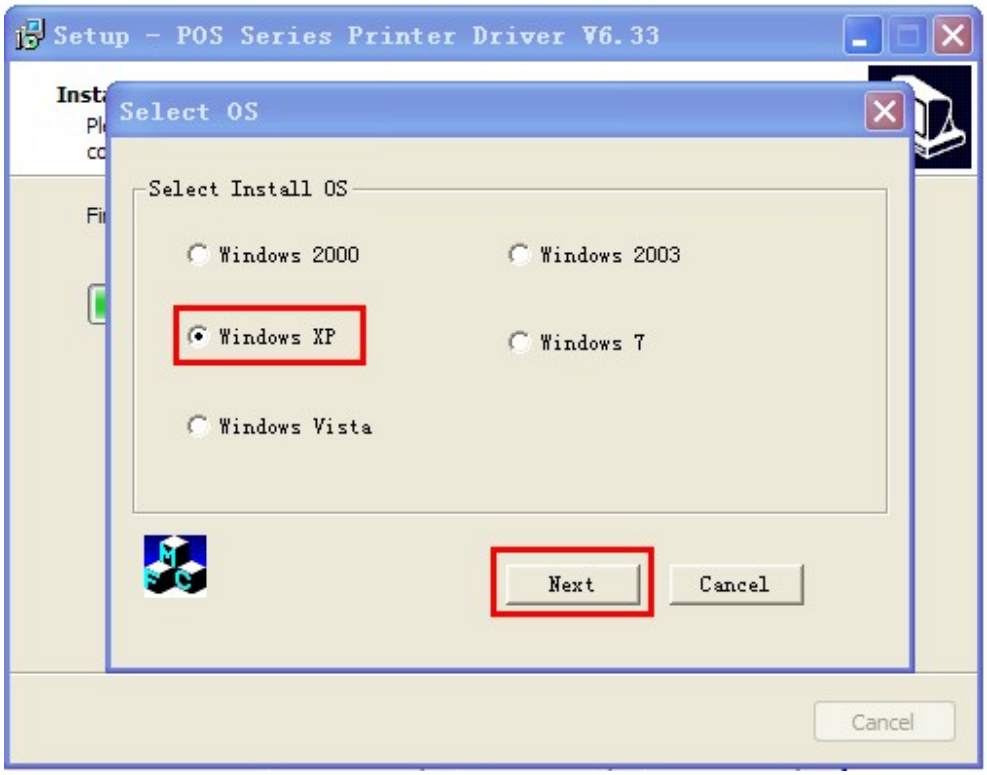

Setup - POS Series Printer Driver V6.33
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
SOFTWARE LICENSE AGREEMENT
IMPORTANT - PLEASE READ CAREFULLY! The POS software you are about to download will be licensed to you, the licensee, on the condition that you agree with POS to the terms and conditions set forth in this legal agreement. PLEASE READ THIS AGREEMENT CAREFULLY. YOU WILL BE BOUND BY THE TERMS OF THIS AGREEMENT IF YOU INSTALL, DOWNLOAD, COPY, OR OTHERWISE USE THE SOFTWARE. If you do not agree to the terms contained in this agreement, please do not install or download the software. Please record the date of download in order to activate the limited ninety (90) day warranty (see below).
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

Select 'A accept the agreement' then 'Next' to continue

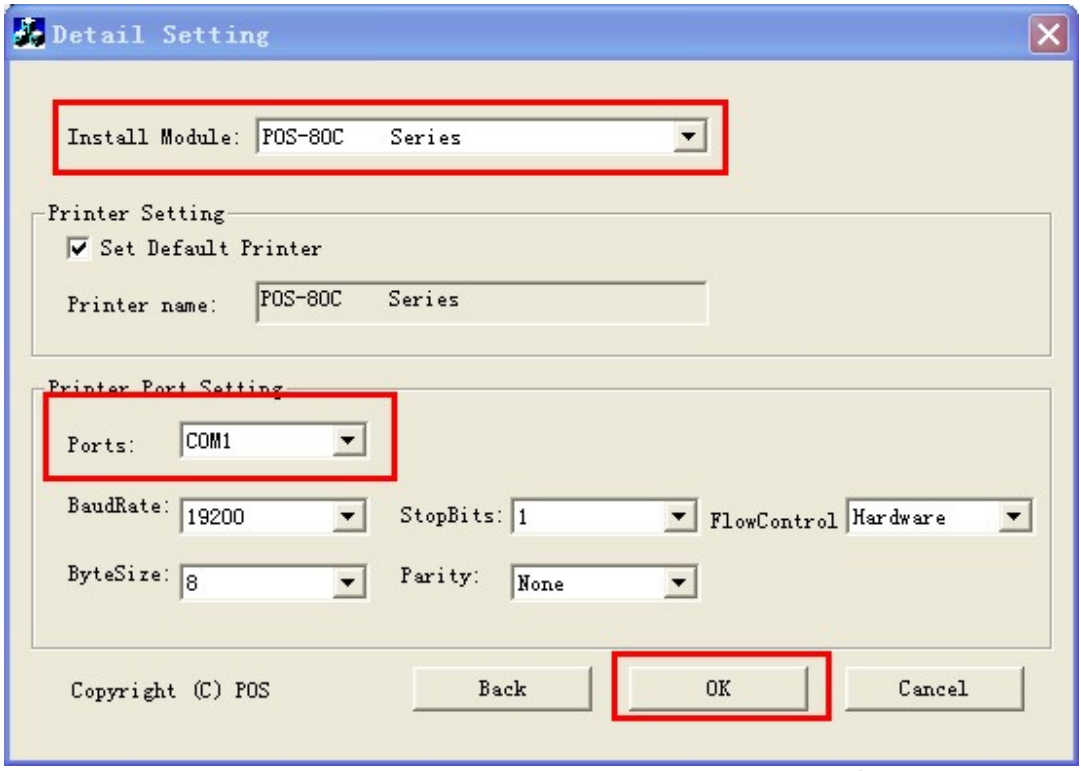

Setup - POS Series Printer Driver V6.33
Information
Please read the following important information before continuing.
When you are ready to continue with Setup, click Next.
Customers have been very grateful for the favor of POS family of printers and support!
When you use the POS series printers, but also will enjoy the POS series printers
Products to bring you fast and smooth paper printing, outstanding reliability, quality and advanced Technical services.
Welcome to POS printer and its driver!
The POS series printer driver for POS family of all types of printers.
POS series printers now available include:
58mm thermal receipt printer series:
< Back
Next >
Cancel

Select the installation destination location, then click 'Next' to continue

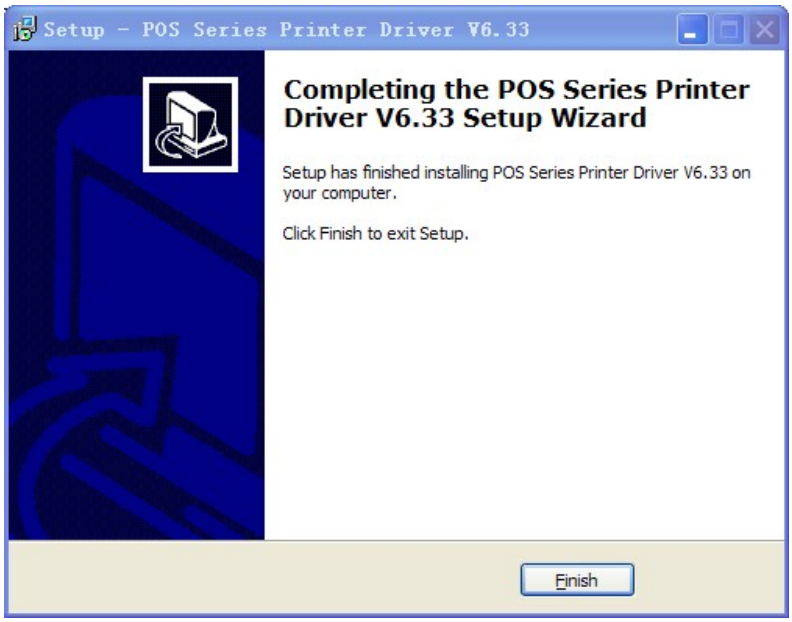

Setup - POS Series Printer Driver V6.33
Ready to Install
Setup is now ready to begin installing POS Series Printer Driver V6.33 on your computer.
Click Install to continue with the installation.
< Back
Install
Cancel



Choose your computer's OS



Select the printer model '**POS-80C series**' and printer port your connecting, if you use USB connection, please also select COM port, after you finished installation, please go to printer property to set the USB port.


Setup - POS Series Printer Driver V6.33
Completing the POS Series Printer Driver V6.33 Setup Wizard
Setup has finished installing POS Series Printer Driver V6.33 on your computer.
Click Finish to exit Setup.
Finish

Click the 'finish' button to end the installation.

2) For Windows 7 64bit OS

Please refer to '**How to install the printer's drive under operation windows 7 64.pdf**' in the driver disk

5. Safety and Maintenance

5.1) Safety Information

1. Do not touch the HEAD of printer with anything.
2. Do not touch the cutter blade.
3. Only use the power supply that is come along with the printer.
4. Do not bend the power cord excessively or place any heavy objects onto it.
5. When connecting or disconnecting the plug, always hold the plug-not the cord.
6. Keep the desiccant out of children s reach.
7. Use only approved accessories and do not try to disassemble, repair or remodel it for yourself.
8. Do not let water or other foreigh objects in the printer.
9. Install the printer on the stable surface, choose a firm.level surface where the printer will not be exposed to vibration.
10. Do not use the printer when it is out of order. This can cause a fire or an electrocution.
11. Do not connect a telephone line into the peripheral drive connector.
12. We recommend that you uplug the printer from the power outlet whenever you do not plan to use it for long periods.

5.2) Periodical Cleaning

Printed characters may become partially unclear due to accumulated paper dust and dirt. To prevent such a problem, paper dust collected in the paper holder and paper transport section and on the surface of the thermal head must be removed periodically. Such cleaning is recommended to be carried out once six month or one million lines.

a. Cleaning the Thermal Head

To remove blackish dust collected on the surface of the thermal head, wipe it with Isopropyl alcohol(IPA)

Note*: The thermal head is easy to damage, so clean it gently with a soft cloth. Take sufficient care not to scratch it when cleaning it.*

b. Cleaning the Paper Holder

Use a soft cloth to remove paper dust from the paper holder and paper transport section.

5.3) Preventing Paper Jams

The paper should not be touched during printing. Shift the paper during paper ejection may cause a feed failure or paper jam.

5.4) Fixing Paper Jam

The Status LED(Red) on the printer control panel will flash with beeps if paper is jammed.

Please follow below instruction to remove paper jam.

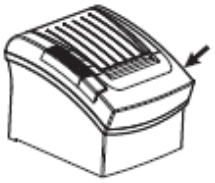
a. Switch the printer power off.

b. Open the printer cover by pushing the Coveropen button.

c. If the printer cover opens, remove the jammed paper gently (take care not to touch the printer head.) And reinstall the paper roll.

d. If the printer cover will not open, please restart the printer by switching power off/on, and try again, if the cover is still unable to open please follow the below instruction.

1. Set the printer power OFF
2. Slide off the side lid to reveal the auto cutter.
3. Roll the little gear as shown until the warning beeps is stopped.



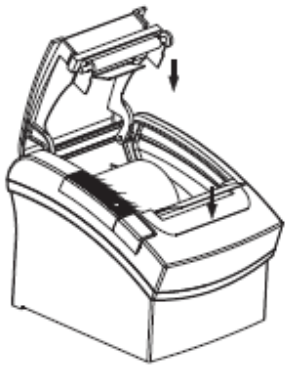
CAUTION:

Since working on the cutter may be dangerous, be sure to turn off the printer first.

Note:

Do not apply extreme force to open the front cover to prevent damage to the cutter. If the front cover will not open properly, please contact your dealer.

e. Return the cutter to its home-position and release or clean our the jammed paper in inside the front cover. Open the top cover, and then reinstall paper



(Reinstall Paper Roll)

(Tear off the paper as shown)

6. Appendix

1. Product Specifications

1.1) Printing Specifications

1. Printing method: Thermal line printing
2. Dot density: 203 dpix203 dpi
3. Printing direction: Unidirectional with friction feed
4. Printing width: 72mm (2.83), 576 dot positions
5. Characters per line (default): Font A: 48, English Font B: 24, Chinese
6. Character spacing (default): Font A: 0.25mm (.01)(2dots)
7. Printing speed: 260mm/second, maximum (at 24V,20C
8. High speed mode: (68F),Density level 2.Speeds are switched, automatically depending on the voltage temperature conditions.)

Note: *There may be variations in printing after switching the mode of the printing speed. To prevent this for logo printing with ESC command, using a downloaded bit image is recommended. Change in printing speed does not occur during down loaded bit image printing. Printing speed may be slower depending on the data transmission speed and cause intermittent printing. It is recommended to transmit data to the printer as quickly as possible.*

1.2) Auto Cutter

1. Partial cut: Cutting with one point left uncut

Note: *To prevent dot displacement, after cutting, paper must be fed approximately 1mm (14/360 inches) or more before printing.*

1.3) Paper Roll Supply Device

1. Supply method: Drop-in paper roll

1.4) Paper Specification

1.Paper type: Specified thermal paper

2. Form: Paper roll

3.Paper width: 79.5 0.5mm (3.13 0.02)

4. Paper roll size: Roll diameter: Maximum 83 mm

5. Specified paper: Specified thermal roll paper;

6. Paper roll spool diameter: Inside: 12mm (.47)

Note: *Paper must not be pasted to the paper roll spool.*

1.5) Internal Buffer

Outside: 18mm (.71)

1. Receive buffer useable 20K bytes.

2. User-defined buffer (both for user-defined characters and user-defined bit images): 12K bytes

1.6) Electrical Characteristics

1. Supply voltage: 24 VDC 8% (optional power supply)

2. Current consumption (at 24V):

High speed mode:

Mean: Approximately 2.5A (Character font
A-N, capital letters, 36-character rolling
pattern, 42 columns printing)

Peak: Approximately 8A

Low power consumption mode:

Mean: Approximately 1.2A

Peak: Approximately 6.6A Standby:

Mean: Approximately 0.2A

Note: *Maximum 1A drawer kick0out driving.*

1.7) Reliability

1.Life Span:

Mechanism: 15,000,000 lines

Thermal head: 100 million pulses, 100 Km

Auto cutter: 1,500,000 cuts

(End of life span is defines to have reached the
end of its life when reaches the beginning of
the Wear out Period.)

2. MTBF: 360,000 hours (Failure is defined as Random Failure occurring at the time of the Random Period.)

3. MCBF: 52,000,000 lines (This is an average failure interval based on failure relating to wear out and random failure up to the life of 15 million lines.)

1.8) Environmental Conditions

1. Temperature: Operating: 5 to 45C (41 to 113F) Storage: -10 to 50C (14 to 122F) (except paper)

2. Humidity: Operating: 10 to 90% RH Storage: 10 TO 90% RH (except for paper)

Note: *If the printer is not used for a long time with paper installed, some part of the printing may be light due to the deformation of the paper. If the printer is not used for a long time with paper installed, be sure to feed paper about 30mm before printing.*

3. Acoustic noise (Operating): When using auto cutter Approximately 50 dB (Bystander position) When not using auto cutter Approximately 40dB (Bystander position)

1.9) Installation

The printer must be installed horizontally. (Vibration during papercutting and using a drawer should be considered. Take measures to prevent the printer from moving. Affixing tapes are provided as an option.) An optional hanging bracket can attach the printer to a wall.(Following the procedures describes in theinstallation manual, install the wall mount and change the location of the paper roll near-end sensor, then install the paper roll stopper and other parts.

2. CONFIGURATION

2.1) Interface

a. RS-232 serial interface

a.1) RS-232 Specifications

1. Data transmission: Serial

2. Synchronization: Asynchronous

3. Handshaking: DTR/DSR or XON/XOFF control

4. Signal levels: MARK= -3 to -15 V: Logic 1 / OFF SPACE= +3 to +15 V: Logic 0 / ON

5. Baud rate: 9600,19200,38400,115200bps

6. Data word length: 8bits

7. Parity Settings: None

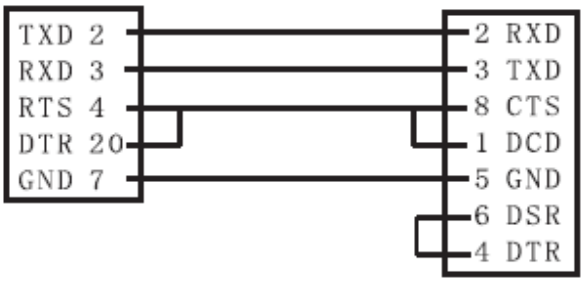
8.Stop bits: 1 or more

9.Connector (printer side): Female DSUB-25 pin connector

Note: *The data word length, baud rate, and parity depend on the DIP switch settings.The stop bit for printer side is fixed to 1.*

a.2) Serial interface connection example

Printer Side DB-25 POS RS-232 Connection DB29



Note: *Set the handshaking so that the transmit data can be received.Transmit data to the printer after turning on the power and initializing*

the printer.

a.3) Interface connector terminal assignments and signal functions

Pin number	Signal name	Signal source	Description
2	TXD	Printer	When using XON/XOFF handshake protocol, printer transmits control code XON/XOFF
3	RXD	Host	Printer receives data from host
4	RTS	Printer	Indicates printer current status, whether the printer is busy or ready to receice data
7	GND	\	Signal ground
20	DTR	Printer	Same as RTS(4pin)

b. IEEE1284 Bidirectional Parallel Interface (Parallel Interface Specifications)

b.1) Parallel Specifications

1. Data transmission: Parallel
2. Synchronization: Externally supplied nStrobe signals
3. Handshaking: nAck and Busy signals
4. Signal levels: TTL compatible
5. Data word length: 8 bits
6. Connector (printer side): 36 pins Centronics connector

b.2) Parallel Interface Pin Assignments for Each Mode

Pin	Mode	Source	
1	STB	HOST	The computer presents the data on the data lines, and pluses STB
2	DATA0	HOST	Indicates the 1st data bit through 8th data bit
3	DATA1	HOST	
4	DATA2	HOST	
5	DATA3	HOST	

6	DATA4	HOST	
7	DATA5	HOST	
8	DATA6	HOST	
9	DATA7	HOST	
10	nAck	Printer	Printer acknowledge signal which indicates that the printer has receiced previous data bit
11	BUSY	Printer	Printer is busy and can not receice data
12	GND	--	Ground
13	Select	Printer	High electric potential
14,15	NC	--	No connect
16,17	GND	--	Ground
18	Logic-H	Printer	High electric potential
19-30	GND	--	Ground
31	NC	--	No connect
32	Nerror(nFault)	Printer	Printer error signal
33	GND	--	Ground
34-36	NC	--	No connect

2.2) Connectors

a. Interface Connectors

Refer to interface explain.

b. Power Supply Connector

This connector is used to connect the printer to an external power source.

Power Supply Connector Pin Assignments

Pin Number	Signal name
1	+24VDC
2	GND
3	NC
Shell	Frame GND

c. Drawer Kick-out Connector (Modular Connector)

The pulse specified by ESC p or DLE DC4 is output to this connector. The host can confirm the status of the input signal by using the DLE EOT, GS a, or GS r commands.

1. Pin assignments: Refer to Table

2. Connector model: Printer side: MOLEX 52065-6615 or RJ11 telephone jack

User side: 6-position 6-contact (RJ11 telephone jack)

Drawer Kick-out Connector Pin Assignments

Pin Number	**Signal Name**	**Direction**
1	NC	
2	Frame GND	Output
3	NC	
4	Drawer Kick-out Drive signal	Output

5	NC	
6	NC	

3. Drawer kick-out drive signal

Output signal: Output voltage: Approximately 24V

Output current: 1A or less